

# Deliver Enterprise Mobility with Citrix XenMobile and Citrix NetScaler



## Introduction

Mobility and the consumerization of IT pose key challenges for IT around scalability, security and application visibility. Citrix solutions including Citrix XenMobile MDM®, the Citrix Mobile Solutions bundle and Citrix NetScaler® provide a complete, integrated and scalable solution to deliver apps and data to any device with full security and a high-performance user experience.

Mobility is a top priority for organizations. More employees than ever before are demanding access to the apps and data that will make them productive when they are outside the office, but this isn't as easy as it was in the past. Now, employees want this access from any mobile device, including their own personal devices. In addition, the apps that people need to get their jobs done have expanded beyond mobile email to include Windows, web and native mobile apps, both in the cloud and in the datacenter, and these apps are broadly distributed across different locations. However, for IT, allowing users to access all of their apps and data from untrusted devices raises significant security and network scalability concerns.

Depending upon their level of mobile adoption, enterprises have turned to either mobile device management (MDM) solutions to manage the devices, and/or enterprise mobility management (EMM) solutions to address data and app security. However, MDM or EMM solutions alone are not enough to ensure that scalable, optimized, high-performance apps are delivered to any user at any location. To be effective, these solutions also need the right network infrastructure in place to ensure that applications can be delivered across different devices securely, while addressing performance, manageability and future expansion considerations.

## Key enterprise mobility challenges

As mobile growth continues, a scalable infrastructure is essential for supporting the new demands placed on the corporate network. IT also faces the challenge of ensuring that the app delivery infrastructure has the capacity to handle the demands of bandwidth-intensive applications and a growing population of users carrying multiple devices. Addressing these requirements for scalability and performance without having to constantly purchase new hardware is a major priority for IT. Meanwhile, IT must also prevent inadvertent disclosure of confidential information and maintain compliance with information security and industry regulations such as PCI-DSS and HIPAA.

Key challenges IT must address include:

- Security of devices, applications and data
- Scalability, to cope with increasing growth of devices, apps and data
- Reducing networking complexity via network infrastructure consolidation
- Visibility of users, devices, and applications for planning and trouble shooting
- Managing configuration and deployment

Citrix XenMobile MDM enables organizations to provide extra security around employees' smartphones and tablets—across every major platform including iPhone, iPad, Android, BlackBerry, Symbian, and Microsoft Windows 8 so employees can safely access business applications from any location.

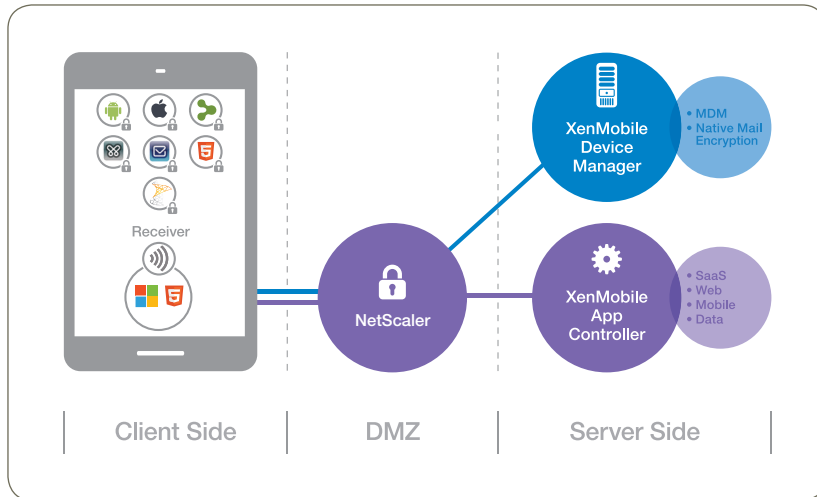
XenMobile MDM goes beyond basic device security and compliance to provide complete protection for your mobile applications, network and data, and ensure end-to-end security and compliance. Before enrollment, each device is checked for compliance and blocked if it is unmanaged, jailbroken, rooted, or doesn't adhere to IT admin policies. Asset or configuration management database integration helps you maintain integrity in reporting on corporate-liable versus individually-liable devices, and users are disallowed from self-reporting device ownership. To maintain strict security, XenMobile MDM tracks spurious activity, such as a hacker trying to break into the phone. By separating employees' personal files from corporate information, XenMobile MDM eliminates the need for employees to give their employers full access to personal material. When an employee leaves the company or loses a personal device, IT can remotely wipe the data on the device.

XenMobile MDM is also available as part of the Citrix Mobile Solutions bundle, an enterprise mobility management solution that securely delivers mobile, web and Windows® apps and data to any device. The Citrix Mobile Solutions bundle includes XenMobile MDM and Citrix CloudGateway™. It enables employee productivity with a self-service enterprise app store that provides access to business apps and data with a consistent, rich user experience. The solution offers identity-based provisioning and control for all apps, data and devices, including employee-owned devices. These capabilities help IT protect enterprise apps and data with policy-based controls, such as restriction of application access to authorized users, automatic account de-provisioning for terminated employees, and remote wipe for data and apps stored on lost devices.

Citrix NetScaler solutions are deployed in thousands of networks around the globe to optimize, secure and control the delivery of all enterprise and cloud services. Together, the Citrix Mobile Solutions Bundle and NetScaler provide the ability to scale, ensure high availability for apps and maintain security while reducing mobility deployment and management costs. Organizations benefit from:

- End-to-end policy and management controls
- A unified access approach to integrate disparate technologies, including MDM, to provide greater control of the entire infrastructure
- Broad mobile OS support with full SSL VPN access for leading mobile OS and handset vendors, including Apple, Google and Microsoft.
- ActiveSync filtering support with NetScaler
- Micro VPN support for @work Mail and Web to securely connect to the intranet
- A high-availability enterprise mobility solution for effective load distribution across multiple Citrix mobility components

The diagram below shows the end-to-end Citrix solution:



### Provide next-gen security

NetScaler delivers an extensive portfolio of essential datacenter security capabilities that are significant for mobile users, their apps and data. NetScaler provides critically important application security, network/infrastructure security, and identity and access management which when combined with XenMobile MDM delivers a tightly coupled solution that enables IT to support the security needs of mobile users and the enterprise.

NetScaler provides essential features to aid network performance, security and session management, including:

- Validation
- Segmentation
- Rate limiting
- DNS proxy
- DDoS
- Simple and extended Access Control Lists (ACLs)
- Idle connection management
- Zero-memory connection-accept
- Full proxy and SSL acceleration

NetScaler also helps organizations defend against a broad range of threats including:

- Packet flood attacks (e.g., syn-flood, DNS, IP fragments, etc.)
- Dangerous packet attacks (e.g., syn+fin, smurf, etc.)
- Connection flood attacks (e.g., idle connection, slow TCP)
- SSL flood attacks (e.g., dangerous options, idle SSL, etc.)

- Application logic attacks (e.g., SQL injection, XSS, CSRF, etc.)
- HTTP DDoS attacks (e.g., GET-flood, etc.)

Other Security features include:

- Application Firewall
- HTTP filter/rate-limiting
- AAA proxy
- HTTP Responder
- Surge Protection

### **Deliver unparalleled scalability**

NetScaler helps organizations build enterprise cloud and mobility networks that embody the characteristics and capabilities that define public cloud services, such as elasticity, expandability and simplicity. This enables enterprise IT leaders to now leverage advanced technologies that were previously available only to large public cloud providers. As the leader of service and application delivery, Citrix NetScaler solutions are deployed in thousands of networks around the globe to optimize, secure and control the delivery of all enterprise, enterprise mobility and cloud services. They deliver 100 percent application availability, application and database server offload, acceleration and advanced attack protection. Deployed directly in front of the servers supporting XenMobile MDM, NetScaler combines high-speed load balancing and content switching, http compression, content caching, SSL acceleration, application flow visibility and a powerful application firewall into a single, easy-to-use platform. This solves the problem of network device sprawl without compromising performance.

Organizations can:

- Build enterprise cloud networks that ensure the best performance and availability for all applications
- Scale performance and capacity with revolutionary Citrix TriScale™ technology
- Gain control and confidence with full application security and visibility
- Achieve infinite flexibility with built-in cloud connectivity
- Grow with the industry's most versatile and extensible platform

Citrix TriScale technology lets you:

- Scale up with five times faster performance on-demand using NetScaler Pay-As-You-Grow
- Scale in for greater simplification by consolidating up to 40 appliances into a single multi-tenant NetScaler platform
- Scale out for expanded capacity with powerful Citrix TriScale clustering

## Consolidate the network infrastructure

In addition to scalability and security, NetScaler SDX is a high-performance appliance with an advanced virtualized architecture built to efficiently consolidate multiple, independently managed appliances into a single platform—while maintaining security and performance SLAs for the massive growth of mobile devices. IT can easily collapse multiple load balancer and application delivery controller (ADC) appliances into a single platform and meet the distinct needs of enterprise mobility, individual business units, critical applications and service provider clients. Complete isolation of traffic satisfies security and compliance mandates and eases operational administration through version control and lifecycle management.

NetScaler MPX hardware with advanced virtualization and I/O acceleration supports an aggregate performance of up to 50 Gbps. Each NetScaler instance can reach up to 18 Gbps to meet the application needs of business tenants and mobile users. A single network control plane streamlines multi-tenant operations for unified provisioning, as well as monitoring and management of multiple concurrent NetScaler instances. Each NetScaler instance can be managed independently, run a different software version and support independent IP addressing schemes to preserve end-to-end isolation of application traffic between different mobility clients.

## Improve Application Visibility and Monitoring

At a deeper level, NetScaler provides integrated, real-time monitoring of application and client traffic, along with the capability to feed back critical application delivery information, to automatically optimize ADC and load balancing policies.

NetScaler ActionAnalytics collects detailed information on administrator-selected application traffic flows and generates multidimensional views of what is happening in real-time. Graphical and tabular displays enable you to instantly view critical app delivery parameters such as *top URLs being accessed* or *top clients consuming application resources*, then easily drill down for more detailed statistics including number of overall requests, total bandwidth being consumed and the response times of the backend mobile infrastructure delivering the application content.

Insight Center for NetScaler provides the ultimate application visibility for XenMobile MDM and the Citrix Mobile Solutions bundle, and for Citrix XenDesktop® and Citrix XenApp® environments as well. This addresses the key requirement today for any information-processing model. In our application-centric world, visibility challenges have grown more significant as more business logic flows through apps. Most enterprise and mobile apps share a common requirement for load balancing, making application delivery controllers like NetScaler the central node from which all app-centric information travels. AppFlow is the standard for fetching visibility information through NetScaler; Insight Center collects AppFlow records, analyzes them and produces efficient analytical reports for user consumption. Insight Center provides all dimensions of visibility information for apps, serving as a central dashboard for complete insight from end clients to backend application servers.

## Simplify Configuration & Deployment

### Integrated support for applications

NetScaler provides pre-defined AppExpert templates for common applications, relieving the datacenter manager from having to gain application expertise just to

optimize the delivery of common enterprise apps. NetScaler administrators benefit from the availability of multiple step-by-step technical deployment guides that provide detailed configuration and deployment guidelines for the most popular business applications as well as with XenMobile MDM.

### NetScaler deployment and configuration

NetScaler is available in high-performance network appliances and software-based virtual appliances for maximum mobile deployment flexibility. Unlike competitive appliances and chassis-based systems, each NetScaler appliance is capable of running all features simultaneously with no limits.

NetScaler provides a scalable architecture for enterprises and service providers to deliver the growth that is needed to meet the demands that the rapid expansion of mobile devices brings to the network. NetScaler increases performance and capacity through simple software license upgrades and clustering technology without the need for disruptive upgrades. IT will also have the option to instantaneously upgrade performance for transient traffic spikes. Citrix NetScaler Burst Packs offer licenses that enable IT to convert an existing NetScaler MPX hardware or VPX virtual appliance deployment to the highest performance available for the particular platform for enhanced capacity for up to 90 days. This allows IT to provision only the necessary performance for durations of limited peak traffic, reducing capital and operational expenses, lengthy procurement cycles and installation times for new appliances.

Citrix Netscaler also includes AppVisualizer, which provides a graphical display of the end-to-end application delivery controller and load balancing policy so that NetScaler administrators can get a simple at-a-glance view of their full enterprise mobility environment.

### Conclusion

Mobile is the future. IT must ensure that the network infrastructure that supports mobile initiatives is flexible and scalable while delivering uncompromised performance and security. With XenMobile MDM, the Citrix Mobile Solutions bundle and NetScaler, IT can address the full range of enterprise mobility requirements. XenMobile MDM helps IT maintain device security and compliance to protect mobile applications, networks and data. The Citrix Mobile Solutions bundle complements this device protection with expansive enterprise mobility management functionality to securely deliver mobile, web and Windows apps and data to any device. Users gain access to a self-service enterprise app store with a consistent, rich experience, while IT can apply policy-based controls to protect enterprise apps and data. NetScaler, deployed as a hardware or virtual appliance, integrates complete functionality as an application delivery controller with extensive network, connection and application security features.

The end-to-end Citrix mobility solution simplifies integration and gives IT unified control of the mobile and network infrastructure with robust security and scalable network. Users are empowered with the full mobility their work requires as well as the ability to use the device of their choice, while IT gains a complete, robust platform to address the full range of mobile business requirements—simply and securely.



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#### **About Citrix**

Citrix (NASDAQ:CTXS) is the cloud computing company that enables mobile workstyles—empowering people to work and collaborate from anywhere, accessing apps and data on any of the latest devices, as easily as they would in their own office—simply and securely. Citrix cloud computing solutions help IT and service providers build both private and public clouds—leveraging virtualization and networking technologies to deliver high-performance, elastic and cost-effective services for mobile workstyles. With market leading solutions for mobility, desktop virtualization, cloud networking, cloud platforms, collaboration, and data sharing, Citrix helps organizations of all sizes achieve the kind of speed and agility necessary to succeed in an increasingly mobile and dynamic world. Citrix products are in use at more than 260,000 organizations and by over 100 million users globally. Annual revenue in 2012 was \$2.59 billion. Learn more at [www.citrix.com](http://www.citrix.com).

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